

MAR 29 2004

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**TRANSMITTAL  
FORM**

	Application Serial Number 10/629,453 Filing Date July 29, 2003 First Named Inventor Keene Group Art Unit 1645 Examiner Name Not yet assigned Attorney Docket No. RBN-001DV Patent No. Not applicable Issue Date Not applicable
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**ENCLOSURES (check all that apply)**

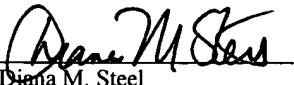
<input type="checkbox"/> Fee Transmittal Form <ul style="list-style-type: none"> <li><input type="checkbox"/> Check Attached</li> <li><input type="checkbox"/> Copy of Fee Transmittal Form</li> </ul>	<input type="checkbox"/> Copy of Notice to File Missing Parts of Application (PTO-1553) <ul style="list-style-type: none"> <li><input type="checkbox"/> Formal Drawing(s)</li> </ul>	<input type="checkbox"/> Notice of Appeal to Board of Patent Appeals and Interferences <ul style="list-style-type: none"> <li><input type="checkbox"/> Appeal Brief (in triplicate)</li> </ul>
<input type="checkbox"/> Amendment/Response <ul style="list-style-type: none"> <li><input type="checkbox"/> Preliminary</li> <li><input type="checkbox"/> After Final</li> <li><input type="checkbox"/> Affidavits/declaration(s)</li> <li><input type="checkbox"/> Letter to Official Draftsperson including Drawings [Total Sheets _____]</li> </ul>	<input type="checkbox"/> Request For Continued Examination (RCE) Transmittal <ul style="list-style-type: none"> <li><input type="checkbox"/> Power of Attorney (Revocation of Prior Powers)</li> </ul>	<input type="checkbox"/> Status Inquiry <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Return Receipt Postcard</li> <li><input checked="" type="checkbox"/> Certificate of First Class Mailing under 37 C.F.R. 1.8</li> <li><input type="checkbox"/> Certificate of Facsimile Transmission under 37 C.F.R. 1.8</li> <li><input type="checkbox"/> Additional Enclosure(s) (please identify below)</li> </ul>
<input type="checkbox"/> Petition for Extension of Time <ul style="list-style-type: none"> <li><input type="checkbox"/> Form PTO-1449</li> <li><input type="checkbox"/> Copies of IDS Citations</li> </ul>	<input type="checkbox"/> Executed Declaration and Power of Attorney for Utility or Design Patent Application <ul style="list-style-type: none"> <li><input type="checkbox"/> Small Entity Statement</li> </ul>	
<input type="checkbox"/> Certified Copy of Priority Document(s) <ul style="list-style-type: none"> <li><input type="checkbox"/> Sequence Listing submission               <ul style="list-style-type: none"> <li><input type="checkbox"/> Paper Copy/CD</li> <li><input type="checkbox"/> Computer Readable Copy</li> <li><input type="checkbox"/> Statement verifying identity of above</li> </ul> </li> </ul>	<input type="checkbox"/> CD(s) for large table or computer program <ul style="list-style-type: none"> <li><input type="checkbox"/> Amendment After Allowance</li> </ul>	
	<input type="checkbox"/> Request for Certificate of Correction <ul style="list-style-type: none"> <li><input type="checkbox"/> Certificate of Correction (in duplicate)</li> </ul>	

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Respectfully submitted,

  
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PATENT  
Attorney Docket No.: RBN-001DV

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Keene *et al.*  
SERIAL NO.: 10/629,453 GROUP NO.: 1645  
FILING DATE: July 29, 2003 EXAMINER: Not yet assigned  
TITLE: Methods for Isolating and Characterizing Endogenous mRNA-Protein  
(mRNP) Complexes

**CERTIFICATE OF FIRST CLASS MAILING UNDER 37 C.F.R. 1.8**

I hereby certify that this correspondence, and any document(s) referred to as enclosed herein, is/are being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 26th day of March, 2004.

  
Anna-Karin Kuliga

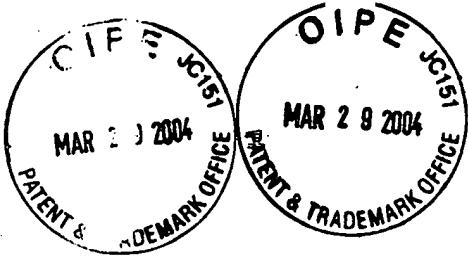
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith are:

1. Transmittal Form (1 page);
2. Information Disclosure Statement (2 pages);
3. Form PTO-1449 (4 pages); and
4. Return Receipt Postcard

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**PATENT**  
Attorney Docket No.: RBN-001DV

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

APPLICANTS: Keene *et al.*

SERIAL NO.: 10/629,453 GROUP NO.: 1645

FILING DATE: July 29, 2003 EXAMINER: Not yet assigned

TITLE: Methods for Isolating and Characterizing Endogenous mRNA-Protein (mRNP) Complexes

Commissioner for Patents

P.O. Box 1540

Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Sir:

In accordance with the provisions of 37 C.F.R. 1.97 and 1.98, Applicants hereby make of record the patents and publications listed on the accompanying Form PTO-1449, and other information contained herein, for consideration by the Examiner in connection with the examination of the above-identified patent application. In accordance with provisions of 37 C.F.R. 1.98, copies of the references were cited or submitted in the parent application U.S. Serial No. 09/750,401, filed on December 28, 2000, which is relied upon for an earlier effective filing date under 35 U.S.C. 120.

**REMARKS**

In accordance with the provisions of 37 C.F.R. 1.97, this statement is being filed (CHECK ONE):

(1) within three (3) months of the **filings date** of a national application other than a continued prosecution application under 37 C.F.R. 1.53(d), or within three (3) months of the **date of entry of the national stage** as set forth in 37 C.F.R. 1.491 in an international application, or before the mailing of the **first Office action** on the merits, or before the mailing of a **first Office action** after the filing of a request for continued examination under 37 C.F.R. 1.114; or

(2) after the period defined in (1) but before the mailing date of a **final action** or a **notice of allowance** under 37 C.F.R. 1.311, and  
 the requisite Statement is below, **OR**

the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein, or

(3) after the mailing date of a **final action or notice of allowance** but before the payment of the **issue fee**, **AND**

the requisite Statement is below, **AND**

the requisite petition fee under 37 C.F.R. 1.17(p), namely **\$180.00** is included herein.

It is respectfully requested that each of the patents and publications listed on the attached Form PTO-1449, and other information contained herein, be made of record in this application.

#### STATEMENT

As required under 37 C.F.R. 1.97(e), Applicant(s), through the undersigned, hereby state either that **[check the appropriate space only if either (2) or (3) is checked on the previous page and the Statement is required]**:

1. Each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application **not more than three months** prior to the filing of the Information Disclosure Statement; or

2. No item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this Statement after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to **any individual** designated in 37 C.F.R. 1.56(c) **more than three months** prior to the filing of the Information Disclosure Statement.

Respectfully submitted,

  
\_\_\_\_\_  
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FORM PTO - 1449

## INFORMATION DISCLOSURE STATEMENT

ATTORNEY DOCKET NO.: RBN-001DV

APPLICANTS: Keene *et al.*

SERIAL NO.: 10/629,453

FILING DATE: July 29, 2003

GROUP: 1645

## U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A1	5,444,149	08/22/95	Keene <i>et al.</i>	530	300	
	A2	5,525,495	06/11/96	Keene <i>et al.</i>	435	172.3	
	A3	5,541,291	07/30/96	Keene	530	350	
	A4	5,561,222	10/01/96	Keene <i>et al.</i>	530	350	
	A5	5,773,246	06/30/98	Keene <i>et al.</i>	435	69.1	
	A6	5,866,680	02/02/99	Keene <i>et al.</i>	530	324	
	A7	5,882,866	03/16/99	Keene	435	6	
	A8	5,972,620	10/26/99	Keene	435	6	

## FOREIGN PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
	B1	WO 94/06934	03/31/94	PCT	C12Q	1/68			

## OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)	
	C1	Anderson, N.E., <i>et al.</i> , "Autoimmune Pathogenesis of Paraneoplastic Neurological Syndromes," <u>CRC Critical Reviews in Neurobiology</u> Vol. 3; pp. 245-299 (1987)
	C2	Antic, D., <i>et al.</i> , "ELAV Tumor Antigen, Hel-N1, by Increases Translation of Neurofilament M mRNA and Induces Formation of Neurites in Human Teratocarcinoma Cells," <u>Genes &amp; Development</u> Vol. 13; pp. 449-461 (1999)
	C3	Antic, D., <i>et al.</i> , "Embryonic Lethal Abnormal Visual RNA-binding Proteins Involved in Growth, Differentiation, and Posttranscriptional Gene Expression," <u>American Journal of Human Genetics</u> Vol. 61; pp. 273-278 (1997)

EXAMINER

DATE CONSIDERED

<b>FORM PTO - 1449</b> <b>INFORMATION DISCLOSURE STATEMENT</b>		<b>ATTORNEY DOCKET NO.:</b> RBN-001DV <b>APPLICANTS:</b> Keene <i>et al.</i> <b>SERIAL NO.:</b> 10/629,453 <b>FILING DATE:</b> July 29, 2003 <b>GROUP:</b> 1645
<b>OTHER ART, JOURNAL ARTICLES, ETC.</b>		
<b>EXAM. INIT.</b>	<b>OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)</b>	
	C4	Atasoy, U., <i>et al.</i> , "ELAV Protein HuA (HuR) can Redistribute Between the Nucleus and Cytoplasm and is Unregulated During Serum Stimulation and T Cell Activation," <u>Journal of Cell Science</u> Vol. 111; pp. 3145-3156 (1998)
	C5	Buckanovich et al., "The Neuronal RNA Binding Protein Nova-1 Recognizes Specific RNA Targets In Vitro and In Vivo," <u>Molecular and Cellular Biology</u> , 17(6):3194-3201 (1997).
	C6	Ceman et al., "Isolation of an FMRP-Associated Messenger Ribonucleoprotein Particle and Identification of Nucleolin and the Fragile X-Related Proteins as Components of the Complex," <u>Molecular and Cellular Biology</u> , 19(12):7925-7932 (1999).
	C7	Chambers, J.C., <i>et al.</i> , "Isolation and Analysis of cDNA Clones Expressing Human Lupus La Antigen," <u>Proc. Natl. Acad. Sci. USA</u> Vol. 82; pp. 2115-2119 (1985)
	C8	Chu et al., "Identification of a Thymidylate Synthase Ribonucleoprotein Complex in Human Cancer Cells," <u>Molecular and Cellular Biology</u> , 14(1):207-213 (1994).
	C9	Crino, P., <i>et al.</i> , "Presence and Phosphorylation of Transcription Factors in Developing Dendrites," <u>Proc. Natl. Acad. Sci. USA</u> Vol. 95; pp. 2313-2318 (1998)
	C10	Dalmau, J., <i>et al.</i> , "The Expression of the Hu Antigen in Human Normal and Tumor Tissues," <u>American Journal of Pathology</u> Vol. 141; pp. 881-886 (1999)
	C11	Duggan, D.J., <i>et al.</i> , "Expression Profiling using cDNA Microarrays," <u>Nature Genetics</u> Vol. 21; pp. 10-14 (1999)
	C12	Fan, X.C., <i>et al.</i> , "Overexpression of HuR, a Nuclear-Cytoplasmic Shutting Protein, Increases the <i>in vivo</i> Stability of ARE-Containing mRNAs," <u>The EMBO Journal</u> Vol. 17; pp. 3448-3460 (1998)
	C13	Gao, F.B., <i>et al.</i> , "Hel-N1/Hel-N2 Proteins are Bound to PolyA + mRNA in Granular RNP Structures and are Implicated in Neuronal Differentiation," <u>Journal of Cell Science</u> Vol. 109, pp. 579-589 (1995)
	C14	Gao, F., <i>et al.</i> , "Selection of a Subset of mRNAs from 3'UTR Combinatorial Libraries Using Neuronal RNA-Binding Protein, Hel-N1," <u>Proc. Natl. Acad. Sci. USA</u> Vol. 91; pp. 11207-11211 (1994)
	C15	Good, P.J., "A Conserved Family of Elav-Like Genes in Vertebrates," <u>Proc. Nat. Acad. Sci.</u> Vol. 92; pp. 4557-4561 (1995)
	C16	International Search Report for PCT/US00/35583, April 18, 2001
	C17	Jain, R.G., <i>et al.</i> , "Ectopic Expression of Hel-N1, and RNA-Binding Protein, Increases Glucose Transporter (GLUT1) Expression in 3T3-L1 Adipocytes," <u>Molecular and Cellular Biology</u> Vol. 17; pp. 954-962 (1997)
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<b>EXAM. INIT.</b>	<b>OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)</b>	
	C18	Keene, J.D., "Combinatorial Chemistry: Randomization and Selection of RNA to Identify Targets for RRM RNA-Binding Proteins and Antibodies," <u>Methods in Enzymology</u> , J.E. Dahlberg and J.N. Abelson, Eds., Academic Press, Inc. San Diego Vol. 267; pp. 367-383 (1996)
	C19	Keene, J.D., "Invited Commentary: Why is Hu Where? Shuttling of Early-Response Gene Messenger RNA Subsets," <u>Proc. Natl. Acad. Sci. USA</u> Vol. 96; pp. 5-7 (1999)
	C20	Keene, J.D., "Methods and Compositions Useful in the Diagnosis and Treatment of Autoimmune Diseases," <u>Biotechnology Advances</u> , GB Vol. 15; p. 525 Abstract (1997)
	C21	Keene, J.D., "RNA Surfaces as Functional Mimetics of Proteins," <u>Chemistry &amp; Biology</u> Vol. 3; pp. 505-513
	C22	King, P.H., <i>et al.</i> , "Mammalian Homologs of Drosophila ELAV Localized to a Neuronal Subset can Bind <i>in vitro</i> to the 3' UTR of mRNA Encoding the Id Transcriptional Repressor," <u>Journal of Neuroscience</u> Vol. 14; pp. 1943-3504 (1993)
	C23	Levine, T.D., <i>et al.</i> , "Hel-N1: An Autoimmune RNA-Binding Protein with Specificity for 3' Uridylate-Rich Untranslated Regions of Growth Factor mRNAs," <u>Molecular and Cellular Biology</u> , Vol. 13; pp. 3494-3504 (1994)
	C24	Levy, N.S., <i>et al.</i> , "Hypoxic Stabilization of Vascular Endothelial Growth Factor mRNA by the RNA-Binding Protein, HuR," <u>Journal of Biological Chemistry</u> Vol. 273; pp. 6417-6423 (1998)
	C25	Loftus, S.K., <i>et al.</i> , "Informatic Selection of a Neural Crest-Melanocyte cDNA set for Microarray Analysis," <u>Proc. Natl. Acad. Sci. USA</u> Vol. 96; pp. 9277-9280 (1999)
	C26	Lutz-Freyermuth, C., <i>et al.</i> , "The U1 RNA Binding Site of the U1 snRNP-Associated A Protein Suggests a Similarity with U2 snRNPs," <u>Molecular and Cellular Biology</u> Vol. 9; pp. 2975-2982 (1989)
	C27	Peng, S., <i>et al.</i> , "RNA Stabilization by the AU-Rich Element Binding Protein, HuR, an ELAV Protein," <u>The EMBO Journal</u> J Vol. 17; pp. 3461-3470 (1998)
	C28	Perou, C.M., <i>et al.</i> , "Distinctive Gene Expression Patterns in Human Mammary Epithelial Cells and Breast Cancers," <u>Proc. Natl. Acad. Sci. USA</u> Vol. 96; pp. 9212-9217 (1999)
	C29	Reim et al., "The RRM Protein NonA from Drosophila Forms a Complex with the RRM Proteins Hrb87F and S5 and the Zn Finger Protein PEP on hnRNA," <u>Experimental Cell Research</u> , 253:573-586 (1999).
	C30	Richter, J.D., "Analysis of mRNA Formation and Function," <u>Academic Press</u> , San Diego, p. 237-261 (1997)
	C31	Schiavi, S.C., <i>et al.</i> , "Regulation of Proto-Oncogene mRNA Stability," <u>Biochemical and Biophysical Acta</u> Vol. 1114; pp. 95-106 (1992)
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C32	Sgroi, D.C., <i>et al.</i> , "In Vivo Gene Expression Profile Analysis of Human Breast Cancer Progression," <u>Cancer Research</u> Vol. 59; pp. 5656-5661 (1999)	
C33	Shimkets, <i>et al.</i> , "Nature Biotechnology," Vol. 17, 798-803 (1999)	
C34	Tenenbaum, S.A., <i>et al.</i> , "Identifying mRNA Subsets in Messenger Ribonucleoprotein Complexes by using cDNA Arrays," <u>Proc. Natl. Acad. Sci. USA</u> Vol. 97; pp. 14085-14090 (2000)	
C35	Tsai, D.E., <i>et al.</i> , "In Vitro Selection of an RNA Epitope Immunologically Cross-Reactive with a Peptide," <u>Proc. Natl. Acad. Sci. USA</u> Vol. 89; pp. 8864-8868 (1992)	
C36	Tsai, D.E., <i>et al.</i> , "U1snRNP-A Protein Selects a Ten Nucleotide Consensus Sequence from a Degenerate RNA Pool Presented in Various Structural Contexts," <u>Nucleic Acids Research</u> Vol. 19; 4931-4936 (1991)	
C37	Velculescu, V.E., <i>et al.</i> , <u>Cell</u> Vol. 88; pp. 243-251 (1997)	
C38	Velculescu, V.E., <i>et al.</i> , "Serial Analysis of Gene Expression," <u>Science</u> Vol. 270; pp. 484-487 (1995)	
C39	Wang, W., <i>et al.</i> , "HuR Regulates Cyclin A and Cyclin B1 mRNA Stability During Cell Proliferation," <u>The EMBO Journal</u> Vol. 19; pp. 1-12 (2000)	
C40	Wen, X., <i>et al.</i> , "Large-Scale Temporal Gene Expression Mapping of Central Nervous System Development," <u>Proc. Natl. Sci. Acad. USA</u> Vol. 95; 334-339 (1998)	
C41	Yang, G.P., <i>et al.</i> , "Combining SSH and cDNA Microarrays for Rapid Identification of Differentially Expressed Genes," <u>Nucleic Acids Research</u> Vol. 27; pp. 1517-1523 (1999)	
C42	Zhang, J., <i>et al.</i> , "A Novel Cytoplasmic Protein with RNA-Binding Motifs is an Autoantigen in Human Hepatocellular Carcinoma," <u>Journal of Experimental Medicine</u> Vol. 189; pp. 1101-1110 (1999)	
C43	Zhao, R., <i>et al.</i> , "Analysis of p53-Regulated Gene Expression Patterns using Oligonucleotide Arrays," <u>Genes &amp; Development</u> Vol. 14; pp. 981-993 (2000)	
C44	Zong, Q., <i>et al.</i> , "Messenger RNA Translation State: The Second Dimension of High-Throughput Expression Screening," <u>Proc. Natl. Acad. Sci. USA</u> Vol. 96; pp. 10632-10636 (1999)	
<b>EXAMINER</b>		<b>DATE CONSIDERED</b>

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